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From: Matt Rainey
Sent: Tuesday, August 01, 2006 12:27 AM
To: AB98 Comments
Subject: Comments on Guidelines re Subject Matter Patentability

Dear Ms. Therkorn,

Attached are the comments of Intellectual Ventures on the proposed guidelines by the USPTO on subject matter eligibility.

Best regards,

--Matt Rainey

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re:

RIN 0651–AB98
[Docket No.: 2005–P–072]

For: **Request for Comments on Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility**

70 Fed. Reg. 75451
(December 20, 2005)

Request for Comments on Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility

Mail Stop Comments - Patents
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Attn: Linda Therkorn

by e-mail
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Dear Ms. Therkorn:

In reply to the Request for Comments (the "Request") published December 20, 2005, at 70 Fed. Reg. 75451, Intellectual Ventures, LLC submits the following comments regarding the Proposed Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (the "Guidelines").

I. Intellectual Ventures is an invention company that relies on a strong patent system to drive its innovation

Intellectual Ventures is in business to create and invest in new inventions. Intellectual Ventures works with internal and external inventors-some of the brightest minds of today's inventive society-to create new inventions.[1] We also build upon our inventions by licensing and acquiring intellectual property from industrial, government and academic partnerships. We rely on a strong patent system to protect the innovation our company fosters. For more information about the business model and work of Intellectual Ventures, please visit our website: http://www.intven.com/about.aspx.

1. For a list of senior inventors at Intellectual Ventures, *see* http://www.intven.com/inventors.aspx

Our inventions are diverse. They span a range of technologies in a myriad of practical applications, including software, semiconductors, medical devices and biotechnology. We apply technologies in different combinations and unique ways to solve problems and make novel advancements. We find that inventions at the cutting edge often push boundaries and cannot be easily classified into neat categories. In many computer systems, the state of the art has progressed to the point where there is little distinction left between hardware and software implementations but a design choice between cost and efficiency. Likewise, whether a technology is delivered in a carrier wave signal or in memory on a disk in many cases is a design choice driven by business needs. To promote the progress of science and the useful arts as charged, the U.S. patent law and system needs to sensibly reflect such technological realities, and to remain flexible and open to protect innovation across diverse areas.

II. The Guidelines propose to heighten subject matter eligibility standards and complexity in a manner contrary to settled law, public policy, and recent USPTO efforts to reform patent examination

A strong, competitive and growing U.S. economy depends on broad subject matter eligibility, which creates incentives to invest. Congress and the federal judiciary recognize the strong public policy implications of eligibility standards, and have consistently favored broad subject matter eligibility. The notion that fewer patents in itself results in higher patent quality and a stronger U.S. economy has been rejected by Congress, the Judiciary and an important recent study.[2]

The proposed interim Guidelines run counter to this settled law and policy. The Guidelines set up an overly broad and complex analysis for Examiners. Unnecessary distinctions are set out based on data and physical transformation, results produced or capable of being produced, and a parsing of separate useful, concrete and tangible results prongs. This overly broad and complex analysis departs from simpler settled case law, and would create undue burdens for Examiners and unnecessary hurdles for Applicants during examination.

Moreover it seems likely that the burden of carrying out these Guidelines will fall disproportionately upon the areas of the USPTO that are most backlogged, such as Internet and computer-related technologies. To inject undue complexity now runs contrary to the USPTO's overall efforts to reduce pendency and improve examination in these backlogged areas.

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2. Epstein, R. A., "Intellectual Property for The Technological Age," The Manufacturing Innovation Series (May 2006) ("On balance, keep the status quo. The current strong protection of isolated and purified substances has led to immense investment, which led between 1980 and 2001 to some 8,000 gene patents. It is doubtful this outpouring of research would have taken place without the exclusive rights offered by the patent system.") (citations omitted).

a. The distinction between data and physical transformation is inappropriate for the Guidelines, because, following *AT&T* and *Lundgren*, Examiners should focus on whether there is a practical application (Answer to Request question 1)

The Guidelines should not ask Examiners to distinguish between data and physical transformations, because such a procedure conflicts with judicial precedent, wastes resources, is not an invariable requirement, and leads to uncertainty and inconsistency.

Both data and physical transformations are potentially eligible subject matter, and the ultimate issue is whether the claim as a whole is drawn to one of the four categories of statutory subject matter.[3] However, if the claim relates to a judicial exception, then the Examiner should focus on whether the claim, as a whole, relates to a practical application. Any examination of a claim for a physical transformation is time wasted, leads to uncertainty and increases pendency, for at least two reasons. First, the Federal Circuit has stated that physical transformation "is not an invariable requirement, but merely one example of how a mathematical algorithm may bring about a useful application."[4] Second, as the Federal Circuit stated, "[t]he notion of 'physical transformation' can be misunderstood."[5] The easy misunderstanding of physical transformation leads to uncertainty and non-uniformity in how Examiners will apply it to eligibility determinations. This uncertainty will adversely affect patent quality and increase pendency by drawing out prosecution with increased Office Actions and appeals.

Furthermore, the Guidelines present a strained reading of the relevant case law. The Request states that "claims that perform data transformation must still be examined for whether there is a practical application of an abstract idea."[6] However, not all data transformations are abstract ideas, so it is inappropriate for the Guidelines to presume that data transformations are abstract ideas (*i.e.* judicial exceptions). Regrettably, the line of reasoning in the Request and Guidelines seems to track that of the dissenting opinion in *Lundgren*,[7] rather than the majority opinion. Regardless, the Federal Circuit has held that claims relating to data transformation are eligible subject matter. In both *Arrhythmia*[8] and *AT&T*,[9] the claims at issue related to data transformations but were found eligible because they covered practical applications of data transformations. The distinction between physical and data transformation in the Guidelines is unnecessary and should be removed.

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3. *In re Alappat*, 33 F.3d 1526, 1543 (Fed. Cir. 1994).

4. *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358 (Fed. Cir. 1999).

5. *Id*.

6. Request at 75,452.

7. *See*, *e.g.*, *Lundgren* at 58 (Barrett, L., dissenting-in-part) ("In my opinion, a claim to a series of steps may be nonstatutory if it does not fall within the definition of a 'process' under § 101 because it does not meet the definition of transforming physical subject matter to a different state . . .").

8. *Arrhythmia Research Tech. Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1059 (Fed. Cir. 1992).

9. *AT&T* at 1359.

b. The distinction between "producing" or "capable of producing" useful, concrete and tangible results is not supported by case law and is contrary to the public policy of broad subject matter eligibility (Answer to Request question 2)

The Guidelines should not impart requirements into the eligibility standards not authorized by statute or judicial precedent. The distinction between results "produced" or "capable of being produced" is not present in recent Supreme Court or Federal Circuit case law, and the Office has cited no authority in the Request for making the distinction. As mentioned, the Guidelines seem to have drawn from the dissenting opinion in *Lundgren*.[10] Notions that a claim would not be eligible because it is merely "capable of producing" a useful result works against the public policy of broad eligibility and should be removed from the Guidelines.

Implementing the distinction would negatively impact overall pendency and decrease patent quality. Examiners will require applicants to show that their claims produce– rather than are *capable* of producing – a useful, concrete and tangible result. However, the Guidelines suggest no criteria for establishing whether a claim "produces" or is "capable of producing" a useful, concrete and tangible result. Without any clear test, Examiners will reach inconsistent results. This will lead to an overall increase in pendency and larger numbers of Office Actions and appeals. Also, Applicants will not be able to confidently draft claims that comply with the standard to avoid prolonged prosecution, which will decrease the overall quality of patents.

Furthermore, the distinction appears to be contrary to settled law on eligibility determinations. In *Diehr*, the Supreme Court stated "[i]t is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted, and not for the result or effect itself."[11] The *Diehr* Court also quoted *Tilghman*, in referring to the famous Goodyear patent applications, stating "the Goodyear vulcanizing process patents . . . pointed out *how the process could be effected*, and that was deemed sufficient."[12] In addition, the Federal Circuit stated in *Alappat* that the invention is "not a disembodied mathematical concept which may be characterized as an 'abstract idea,' but rather a specific machine *to produce* a useful, concrete, and tangible result."[13] From the above case, law it appears that the distinction is contrary to law. Therefore, the distinction is likely to lead to the Office being sued for improperly denying protection based on an unlawful standard. The Office is urged to remove the distinction from the Guidelines and focus the Examiner's attention on whether the claim, as a whole, relates to a practical application.

c. The Guidelines should not heighten the eligibility requirements by improperly instilling utility standards into the definitions of "useful, concrete and

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10. *See*, *e.g.*, *Lundgren* at 41; 84 (Barrett, L., dissenting-in-part) ("'Practical' is defined as . . . '*capable of* being used or put into effect.' . . . 'Useful' is defined as '*capable of* being used advantageously.'"; "There is a problematic type of process claim where . . . no presently known machine is *capable of* performing the steps.") (emphasis added).

11. *Diehr at* 184 (quoting *Corning v. Burden*, 15 How. 252, 267-268 (1854)).

12. *Diehr* at 184 (quoting *Tilghman v. Proctor*, 102 U.S. 707 at 772 (1881)) (emphasis added).

13. *In re Alappat,* 33 F.3d 1526, 1544 (Fed. Cir. 1994) (emphasis added).

tangible," which taken together simply means practical application (Answer to Request question 3)

Nowhere in the case law have the terms "useful, concrete and tangible" been separately parsed out and defined to create standards for determining eligibility. Nevertheless, the Office has suggested such a standard in the Guidelines. The Office is urged not to do so, for it heightens the standard for eligibility, which does not further the public policy of broad eligibility and will lead to greater pendency through protracted prosecution and increased appeals.

Utility requirements are improperly instilled into eligibility in the Guidelines, thus heightening the standard for eligibility. The Guidelines define each term using case law and standards from the utility prong of § 101, which, even according to the Office, is distinct from eligibility.[14] The definition of "useful" comes directly from the PTO's Utility Examination Guidelines. The definitions of "tangible" and "concrete" come from *Benson*[15] and *In re Swartz*,[16] respectively, which were cases that held claims unpatentable for failing the utility requirement of § 101. The utility cases do not mention eligibility in their analysis.[17] Furthermore, cases decided on issues of eligibility, *e.g.*, *Diehr*, *Alappat*, *State Street*, *AT&T*, and *Lundgren* do not mention the utility prong of § 101, nor do they perform the utility analysis laid out in cases such as *Fisher*.

The terms "useful, concrete and tangible" first appeared in *In re Alappat*, and, have not been separately defined as the Office proposes to do here.[18] In *State Street* and *AT&T*,[19] the Federal Circuit continued to use the language in their holdings, but have never used each term as a separate requirement for eligibility. In all the cases, it seems the Federal Circuit has used the language together to simply show how the claimed inventions are practical applications. The Office can draw from the examples in the case law, to demonstrate for Examiners, whether a claim at issue relates to a practical application. The Office can refer Examiners to *Lundgren*, *AT&T, State Street*, *Arrhythmia*, *Alappat* and *Diehr,* as examples of a practical application.

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14. *See* M.P.E.P. § 2107.01 (August, 2005) ("Office personal must keep in mind several general principles that control application of the utility requirement. As interpreted by the Federal courts, 35 U.S.C. § 101 has two purposes. First, 35 U.S.C. § 101 defines which categories of inventions are eligible for patent protection. . . . Second, 35 U.S.C. § 101 serves to ensure that patents are granted on only those inventions that are "useful.")

15. *Gottschalk v. Benson*, 409 U.S. 63 (1972).

16. *In re Swartz*, 232 F.3d 862 (Fed. Cir. 2000).

17. *See*, *e.g.*, *In re Fisher*, 421 F.3d 1365 (Fed. Cir. 2005).

18. *In re Alappat* at 1544. (In discussing why the claimed invention was eligible, the Court stated the invention "is not a disembodied mathematical concept which may be characterized as an 'abstract idea,' but rather a specific machine to produce a useful, concrete, and tangible result.").

19. *AT&T* at 1360. ("In contrast, our inquiry here focuses on whether the mathematical algorithm is applied in a practical manner to produce a useful result. *In re Grams* is unhelpful because the panel in that case did not ascertain if the end result of the claimed process was useful, concrete, and tangible. . . . The focus of the court in *Schrader* was not on whether the mathematical algorithm was applied in a practical manner since it ended its inquiry before looking to see if a useful, concrete, tangible result ensued.").

III. Preemption should not be a separate doctrine in eligibility determinations, but merely a check to confirm that the claim as a whole relates to a practical application (Answer to Request question 4)

Preemption should not be used as another doctrine or standard for eligibility. Preemption is a subjective guide that the Office should try to avoid emphasizing because it will lead to greater uncertainty. Each Examiner will judge the limits of preemption differently. The focus of Examiners should be on whether the claim, as a whole, relates a practical application. This standard, properly applied, obviates the need for the "preemption" determination.

Preemption is merely a final check to confirm patent eligibility for claims that employ judicial exceptions (*e.g.*, mathematical formulas). The claim must be viewed, as a whole, to determine whether it covers a judicial exception in isolation. If so, the applicant is improperly seeking to preempt the judicial exception. However, the use of a judicial exception "in conjunction with all the other steps" in a claimed process is acceptable.[20] Therefore, the Office should focus the Examiner's attention on whether the claim, as a whole, relates to a practical application. A practical application, by definition, is not an abstract idea, natural phenomena, or law of nature.

IV. It is improper for the Office to create *per se* rules against signal claims, especially because signal claims can be considered articles of manufacture and the Office has historically allowed them (Answer to Request question 5)

The Guidelines state that signals are ineligible for patent protection because they do not fall under any statutory class of eligible subject matter.[21] However, contrary to the assumptions of the Guidelines, signals are physical and can be considered articles of manufacture. The Guidelines cite to cases from the early 1900's for defining manufacture. These definitions are outdated and a modern understanding of manufacture should be used in analyzing eligibility of signal claims.

Electromagnetic signals are considered physical both by scientists and the Federal Circuit, and as such are eligible as articles of manufacture. In physics, wave-particle duality holds that light, an electromagnetic signal, exhibits properties of both waves and particles. Therefore, it is understood that electromagnetic signals are physical. The Federal Circuit is not in disagreement. Citing *Taner*, the *Ahrrythmia* court stated that "the view that 'there is nothing necessarily physical about signals' is incorrect."[22] Because signals are physical, they fall into the statutory category of article of manufacture. Signal claims that include functional descriptive material, *i.e.* computer programs, are clearly eligible, because they fall into a statutory category (manufacture) and include features that relate to a practical application. Computer programs embedded in a signal should be no

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20. *Diehr* at 187.

21. Guidelines at 57.

22. *Arrhythmia* at 1056 (citing *In re Taner*, 681 F.2d 787, 790 (C.C.P.A. 1982), which cites *In re Sherwood*, 613 F.2d 809 (C.C.P.A. 1980) and *In re Johnson*, 589 F.2d (C.C.P.A. 1978), which both found that signals are viewed as physical and the processes were viewed as transforming a physical thing into a different state.)

less eligible for patentability than computer programs on a floppy disk or other computer-readable medium.[23]

The Request expresses concern about the impact on ISPs, satellites, Wi-Fi, and other carriers of signals if signal claims are statutory subject matter. Signal claims are currently eligible, and these businesses have flourished unabated. Even if infringement issues did begin impeding growth in these business sectors, and the Office has cited no such evidence of particular harm to this industry, solutions can be crafted by Congress, such as the notice and takedown provisions crafted for ISPs in copyright. Patent protection for computer programs embedded in signals is necessary for the American software industry. Without signal claims, the patentees have no recourse against off-shore infringers who transmit signals carrying the patented products into the United States. Here the Office should continue to allow signal claims and further the strong public policy interest of a broad, even application of eligible subject matter under 35 U.S.C. § 101 at the USPTO without introducing fine technological distinctions that discriminate against classes of businesses.

Additionally, the Guidelines do not discuss what appears to be an "about face" on the part of the Office on signal claims. The *Beauregard* decision seemed to confirm the trend in the United States to providing patent protection for signal claims.[24] And, in fact, after the *Beauregard* decision, it was clear that the Office was allowing signal claims, and even issued training materials with exemplary eligible signal claims.[25] The Guidelines do not discuss any rational for changing position, and the Office is urged not to do so. Signal claims are important for U.S. industry and should continue be eligible for patent protection.

Applicants and investors, including Intellectual Ventures, invest substantial time and money in reliance upon settled law. This reliance would be undercut by the Guidelines, which not only fail to comport with Supreme Court and Federal Circuit law, but even conflict with the Office's own recent Board of Patent Appeals and Interferences (BPAI) decision, *In re Lundgren*, which stands for broad subject matter eligibility and does not support the rules proposed in the Guidelines.[26]

The Office is obliged to follow the majority opinion of *Lundgren*, and is strongly urged to revise the current proposed Guidelines, to remove any reasoning or analysis from the *Lundgren* dissent, and to focus the Examiners' attention on whether the claim at issue, taken as a whole, relates to a practical application.

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23. See *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995).

24. *Id*.

25. Horstemeyer, S.A., *et al.*, "A New Frontier in Patents: Patent Claims to Propagated Signals," Papers from the 13th Annual Spring CLE Program, American Bar Association, 1998. ("Located deep inside the *Training Materials*, in a nonconspicuous example, was the new and provocative propagated signal claim in the form of a 'computer data signal embodied in a carrier wave,' with clear advocation by the USPTO and convincing legal analysis in support thereof.") (emphasis in original) (citations omitted).

26. *In re Lundgren*, B.P.A.I. Case Nos. 2003-2088 (Sept. 28, 2005).

V. 35 U.S.C. §§ 102, 103 and 112 are distinct from § 101 subject matter eligibility

It should be made clear that §§ 102, 103 and 112 are distinct and separate from §101 subject matter eligibility. As the Supreme Court stated in *Diehr,* "The question therefore of whether a particular invention is novel is 'wholly apart from whether the invention falls into a category of statutory subject matter.'"[27] Sections V and VI of the Guidelines require Examiners to examine applications for compliance with §§ 102, 103 and 112. Although in a global sense of application examination, this is necessary and supported, these sections are distinct from eligibility requirements. To prevent the risk of Examiners improperly reading other restrictions into §101 subject matter eligibility, Sections V and VI should provide a clear statement that these sections are immaterial to the specific determination of patent subject matter eligibility. Subject matter eligibility is intended to be a low hurdle for patent applications prior to examination under the "conditions and requirements of this title," namely § 101 utility, § 112, § 102, and § 103. Prematurely reading these other requirements into a patentable subject matter determination improperly narrows the breadth of eligibility.

VI. Summary

Intellectual Ventures believes that the Subject Matter Eligibility Guidelines are critically linked to U.S. economic health and the quality of the U.S. patent system. Patent eligibility drives the economics underlying innovation investment. Uncertain and weak patent protection decreases investors' willingness to invest in true innovation, and creates a disincentive for inventors to innovate in the first place.

The Guidelines act as a gatekeeper to obtaining patents at the USPTO. This threshold plays a critical role in early investment decisions and risks taken in new research and development. Increasing this threshold or creating uncertainty would reduce likely support for innovation in outlying subject matter areas.

The proposed Interim Guidelines run counter to settled law and policy favoring broad patentable subject matter eligibility. Such broad and certain eligibility distinguishes the U.S. entrepreneurial climate from that of other countries and regions.

The Guidelines set up an overly broad and complex analysis for Examiners. Unnecessary distinctions are set out based on data and physical transformation, results produced or capable of being produced, and a parsing of separate useful, concrete and tangible results prongs. This overly broad and complex analysis departs from simpler settled case law, creates undue burdens upon Examiners and unnecessary hurdles for Applicants during examination.

Implementation of these Guidelines would be contrary to 35 U.S.C. and case law on patentable subject matter, and would result in improper rejections that prolong prosecution and increase overall pendency, the costs of obtaining patents, and the numbers of appeals. This would introduce greater uncertainty, delay and conflict into an already

27. *Diehr at* 189-91 (citations omitted).

overburdened system, and would undermine the credibility of the U.S. patent system and impair U.S. competition in the international economy.

Intellectual Ventures strongly recommends that the USPTO redraft these Interim Guidelines to conform the subject matter eligibility standards to the standards already reflected by the USPTO, the statute and the courts. The proper standard under existing law is whether a claimed invention, as a whole, recites a practical application and does not preempt a law of nature, an abstract idea, or physical phenomena. See, *In re Lundgren.* Applying this eligibility standard protects applicants, promotes innovation, and is easier for Examiners to apply. Indeed, in *Lundgren* at pp. 4-5 the BPAI majority noted that "a process claim that applies a mathematical algorithm to produce a useful, concrete, tangible result without preempting other uses of the mathematical principle, on its face comfortably falls within the scope of §101, *AT&T*, 172 F.3d, 1352, 1358." We recommend that the USPTO model this simpler threshold, as it must, in the Interim Guidelines. This will allow the USPTO to follow the policy balance struck by Congress and courts, whichencourages broad eligible patentable subject matter while keeping patent examination resources directed efficiently toward reducing pendency.

Consideration of the above comments is respectfully requested.

Respectfully submitted,

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